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ABSTRACT

This study evaluated a behavioral teaching strategy for teaching the use of compound predicates in writing to three academically deficient, behaviorally disordered boys (ages 9 to 13). The strategy attempted to affect the number of compound predicates per T-unit (minimal terminable unit) per 20-minute writing session using a combination of sentence-combining exercises and reinforcement. The three students showed systematic increases in the number of compound predicates they wrote during each writing session. Results suggest the usefulness of the T-unit as both an instructional unit and for research purposes. (15 references) (DB)

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Increasing the Use of Compound Predicates in the Written Compositions of Students with Mild Learning Handicaps

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Research presented at the 15th Annual Convention of the Association for Behavior Analysis, Nashville, TN, May 1989

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Running head: Increasing Compound Predicates

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In the study of the development of written composition skills, it appears that certain characteristics can be attributed to certain stages of schooling. For example, as children gain proficiency in writing, they tend to write longer T-units. A T-unit is an independent clause including any dependent clauses attached or embedded in it (Hunt, 1965). Longer T-units are the result of students' learning to expand their T-units by using prepositional phrases, adjectives, clauses, coordinated predicates, and so forth.

One of the easiest and one of the earliest-to-develop ways of lengthening T-units is the use of conjunctions to coordinate T-units. This coordination of T-units usually reaches a peak at about fourth grade (Hunt, 1965). In fact, students often over-use this technique and produce a long string of T-units beginning with and (Hunt, 1965). Between grades four and eight they learn to coordinate structures within T-units, such as subjects, objects of a preposition, verbs, and predicate adjectives and nouns (Hunt, 1965).

Several studies have been published using applied behavioral analysis procedures to enhance written composition skills of children. Most of these were undertaken with academically and

behaviorally normal or high-achieving elementary through high school students in nonremedial classrooms (Ballard & Glynn, 1975, Maloney & Hopkins, 1973; Maloney, Jacobson, & Hopkins, 1975; Sonntag & McLaughlin, 1984, Van Houten, Morrison, Jarvis, & McDonald, 1974; and Van Houten & MacLellan, 1981).

Only four published behavior analytic studies to date have been undertaken with mildly handicapped (normally-hearing, academic-deficient, learning disabled, and/or behaviorally-disordered) students in special classrooms (Bording, McLaughlin, & Williams, 1984; Brigham, et al., 1972; Harris & Graham, 1985; Kraetsch, 1981).

Having found that the students in the present study seldom used compound predicates, compound predicates were targeted for treatment. Specifically, we treated the number of compound predicates per T-unit (defined below) per 20-minute session using a combination of sentence-combining exercises (O'Hare, 1973) and reinforcement.

Method

Subject and Settings

Three academically deficient, behaviorally-disordered boys assigned to a self-contained public day school for severely behaviorally disordered students participated. Steve, Lamar, and Mitch were, respectively, 9-4, 10-5, and 12-7 years of age at the beginning of the study. Steve and Mitch were reading at about the third grade level, and Lamar was reading at fourth grade

level, according to scores on the Peabody Individual Achievement Test. Tutoring sessions were held in an unused classroom at the school, and were conducted by the author and two assistants.

Stimulus Materials/Apparatus

Punctuation and Capitalization Exercises. Each exercise, used during baseline only, contained ten to fifteen phrases or sentences that the students were instructed to rewrite or change using correct punctuation or capitalization.

Sentence Combining Exercises. Each exercise, used during the sentence-combining/reinforcement phase, consisted of 10 sets of two or three simple sentences that were to be combined into one sentence (Schuster, 1980). The sentence-combining exercises were written by graduate students.

Pictures. Color and black and white commercially available 8 x 10 in (20.32 x 25.4 cm) or 12 x 17 in (30.48 x 43.18 cm) photographs provided topics for students during writing. A total of 140 different pictures were presented to the students.

Interobserver Agreement

Interobserver agreement was calculated on a randomly-selected 25% of the daily writing samples and procedural checklists per experimental condition per subject. For writing samples, agreement was calculated separately on number and length of T-units, and number of compound predicates per sample.

Agreement was computed by an item-by-item comparision of scores obtained by the researcher or teacher and a secondary

observer. Only occurrences of behavior were scored. Data were calculated as a percentage of agreements by dividing the number of agreements by the number of agreements and disagreements and multiplying by 100 (Sulzer-Azaroff & Mayer, 1977).

Procedure

Experimental design. A multiple-baseline across subjects experimental design was used to assess the effects of a sentence-combining instructional package combined with token reinforcement for correct use of compound predicates and T-units in the written compositions of the students. The multiple-baseline across subjects design allowed us to determine whether the treatment procedures were effective without requiring a reversal design. After the treatment procedure, we did not expect that the use of compound predicates would decrease to baseline levels.

Independent variables. Table 1 summarizes the experimental conditions, procedures, materials used, and reinforcement contingencies in effect during experimental sessions throughout the study.

Insert Table 1 about here

Each daily forty-five minute experimental session consisted of a 15-minute tutoring period, a 5-minute scoring period, a 20-minute writing period, and a second 5-minute scoring period.

Tutoring. During the 15-minute tutoring period, the researcher presented the student with the practice worksheets on punctuation and capitalization (during Baseline) or sentence-combining (during Sentence-Combining/Reinforcement), and gave the student instructions for completing the worksheets.

Writing. During the writing period of each experimental session throughout the study, the student selected one of two pictures to write about. Students were instructed to write a story about the picture and were allowed 20 minutes to write. The researcher instructed them when to begin writing and when to stop.

Point System

During Baseline and Treatment sessions the student earned points for correct target responses during tutoring and writing sessions. Points could be exchanged for daily and weekly reinforcers. The student was required to earn 18 points to receive a daily reinforcer (inexpensive trinkets such as erasers) and 64 points to receive a weekly reinforcer (more costly items such as games).

Tutoring. The student earned five points if he received 80% correct on the capitalization and punctuation exercises during Treatment.

Writing. During Baseline sessions the student earned one point for each correct use of capital letters and punctuation

marks in his story. During Treatment, he earned one point for each compound predicate.

Dependent Variables and Scoring Procedures

A T-unit was defined as an independent clause including subordinate clauses attached to or embedded in it (Hunt, 1970). Two independent clauses joined by a conjuction comprised two T-units, with the conjunction attached to the second T-unit. A compound predicate was defined as two or more verbs joined by "and" or "or" with one subject in an independent clause.

During Baseline, the writing samples were also scored for correct capitalization and punctuation to award points to the students and ensure equal amounts of reinforcement across all experimental conditions. The researcher scored the writing samples in the presence of the students so points could be awarded immediately. Later, the second observer scored the sample from an unmarked photocopy. Worksheets for capitalization and punctuation were scored for correct and incorrect use of specific target skills. Sentence-combining exercises included 10 sets of sentences for each tutoring session. Briefly, if a student combined the sentences into an acceptable (grammatically correct) sentence, and placed the adjective(s) in the proper place(s) the sentence was considered correct.

Results

The three students showed systematic increases in the number of compound predicates they wrote during each writing session, as shown in Figure 1. Also shown in Figure 1 is the fact that the ratio of compound predicates to T-units becomes systematically smaller with the introduction of the sentence-combining and point system contingencies for writing compound predicates.

Insert Figure 1 about here

Throughout all sessions in each experimental condition all three students consistently earned the 18 points required to earn a trinket. Thus, amount of reinforcement was held constant across experimental conditions.

Discussion

The present study demonstrated the effectiveness of the use of sentence-combining exercises and points contingent upon number of compound predicates per T-unit per 20 minutes of free-writing time.

T-unit length, or words per T-unit, is a measure of syntactic complexity in that it depends on the use of particular kinds of words, phrases, clauses, and other structures to increase the amount of information it carries (Hunt, 1970). Thus, increasing the number of compound predicates per T-unit increases the information in the T-unit and the T-unit length.

Another advantage of using the T-unit measure in research in written language is that it obviates the need to rely on capitalization and punctuation supplied by the writer as indicators of sentence beginnings and endings. This is an important consideration in scoring compositions of less proficient or beginning writers.

References

Ballard, K. D., & Glynn, T. (1975). Behavioral self-management in story writing with elementary school children. Journal of Applied Behavior Analysis, 4, 387-398.

Bording, C., McLaughlin, T. F., & Williams, R. L. (1984). Effects of free time on grammar skills of adolescent handicapped students. Journal of Educational Research, 77, 312-318.

Brigham, T. A., Graubard, P. S., & Stans, A. (1972). An analysis of the effects of the sequential reinforcement contingencies on aspects of composition. Journal of Applied Behavior Analysis, 5, 421-429.

Harris, K. R., & Graham, S. (1985). Improving learning disabled students' composition skills: self-control strategy training. Learning Disability Quarterly, 8, 27-36.

Hunt, K. W. (1965). Grammatical structures written at three grade levels (Research Report No. 3). Champaign, IL: National Council of Teachers of English.

Hunt, K. W. (1970). Syntactic maturity in school children and adults. Monographs of the Society for Research in Child Development, 35(1, Serial No. 134).

Kraetsch, G. A. (1981). The effects of oral instructions and training on the expansion of written language. Learning Disability Quarterly, 4, 82-90.

Maloney, K. B., & Hopkins, B. L. (1973). The modification of sentence structure and its relationship to subjective judgment of creativity in writing. Journal of Applied Behavior Analysis, 6, 425-433.

Maloney, K. B., Jacobson, C. R., & Hopkins, B. L. (1975). An analysis of the effects of lectures, requests, teacher praise, and free time on the creative writing behaviors of third grade children. In E. A. Ramp & G. Semb (Eds.), Behavior analysis: Areas of research and application (pp. 244-260). Englewood Cliffs, NJ: Prentice-Hall.

O'Hare, F. (1973). Sentence combining: Improving student writing without formal grammar instruction (Report Series No. 15). Urbana, IL: National Council of Teachers of English.

Schuster, E. H. (1980). Sentence mastery: Teacher's manual. New York: McGraw Hill.

Sonntag, C. M., & McLaughlin, T. F. (1984). The effects of training students in paragraph writing. Education and Treatment of Children, 7, 49-59.

Sulzer-Azaroff, B., & Mayer, G. R. (1977). Applying behavior-analysis procedures with children and youth. New York: Holt, Rinehart, & Winston.

Van Houten, R., & MacLellan, P. (1981). A comparison of the effects of performance feedback and sentence-combining instructions on student T-unit length. Education and Treatment of Children, 4(1), 17-33.

Van Houten, R., Morrison, E., Jarvis, R., & McDonald, M. (1974). The effects of explicit timing and feedback on compositional response rate in elementary school children. Journal of Applied Behavior Analysis, 7, 547-555.

Table 1: Procedures and reinforcement during tutoring and writing periods under two experimental conditions

	Experimental Conditions	
	Baseline	Sentence-Combining and Reinforcement
Tutoring Period (20 minutes)	Capitalization and punctuation worksheets Reinforcement for correct responses	Sentence-combining worksheets Reinforcement for correct responses
Writing Period (20 minutes)	No reinforcement	Use of coordinated predicates Reinforcement for each use

Figure Caption

Figure 1. Number of compound predicates and T-units written by Steve, Lamar, and Mitch per consecutive 20-minute writing period. During Baseline correct capitalization and punctuation were reinforced with points. During Treatment use of compound predicates was reinforced during free writing periods, and during tutoring sessions, sentence-combining instructional materials were used to teach compound predicates.

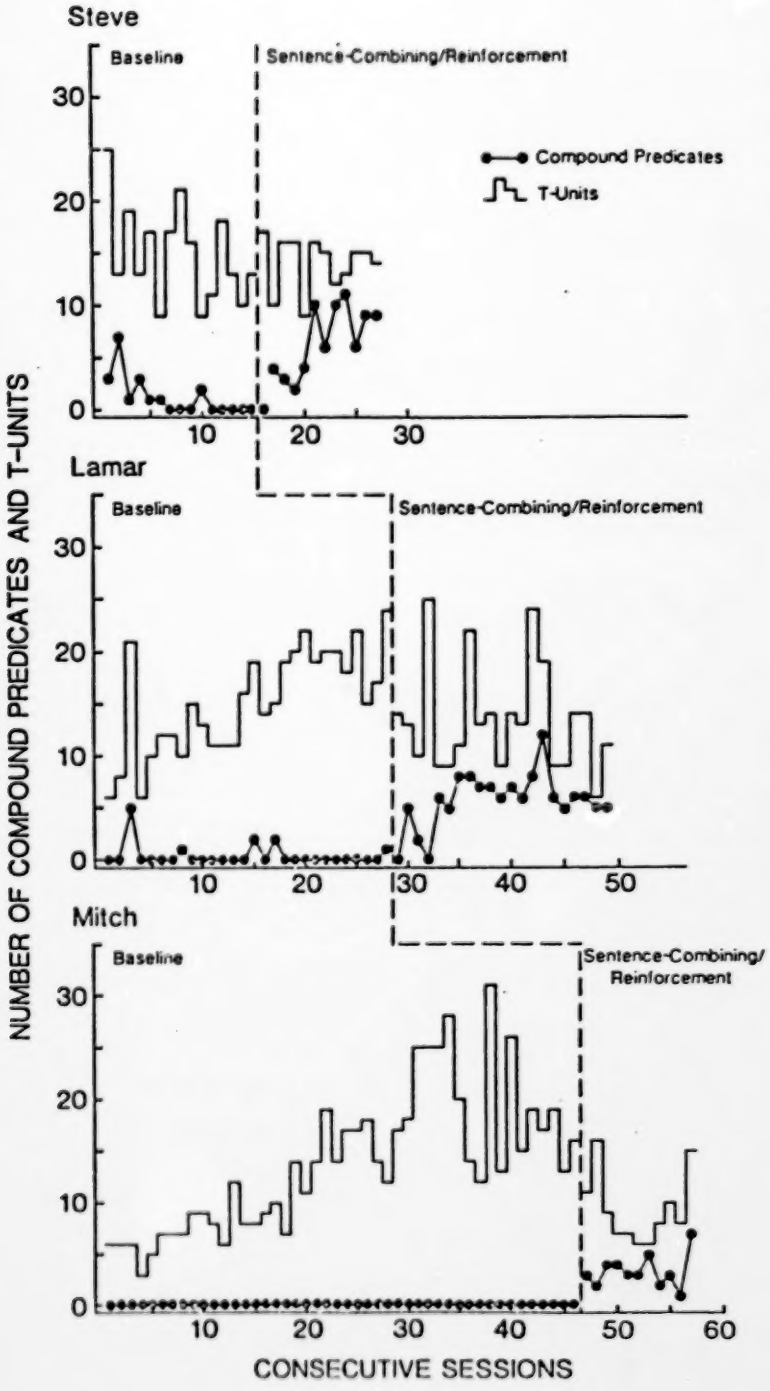
Steve
Baseline
Sentence-Combining/Reinforcement
Compound Predicates
T-Units
Lamar
Baseline
Sentence-Combining/Reinforcement
Mitch
Baseline
Sentence-Combining/
Reinforcement
NUMBER OF COMPOUND PREDICATES AND T-UNITS
CONSECUTIVE SESSIONS

Figure 1

Interobserver Agreement

Number of T-units:	98% (range = 91-100%)
T-unit Length:	96% (range = 86-100%)
Number of compound predicates per sample:	99% (range = 95-100%)
Procedural Checklist:	99% (range = 99-100%)